

5/44

DART AEROSPACE LTD	Work Order:	24410
Description: 3" Skidtube Light 'I' Beam Extrusion	Part Number:	D2600-5-108
Drawing: D2600 Rev. D1	Qty:	200 240

05.10.03 4/05.10.03

Step	Location	Procedure	By	Date	Qty
1	DC	Issue Traveller	JA	05.10.04	240
2	PG	Issue P/O: <u>2008723</u> a) Extrude as per Dwg D2600 b) Material: 6061-T6 (QQ-A-200/8) c) Minimum yield tensile strength = 35 ksi d) Minimum ultimate tensile strength = 40 ksi e) Minimum elongation = 8% f) Order at 108" long g) Caradon Indalex Tool # MS-18871 h) To be packed per DSK 066 i) Pull test to ASTM standard B221 required. j) Material certification is required	JA	05-10-07	240
3	RG	Inspect for transit damage Ensure certification are attached	CL	05/10/24	264
4	QC6	Inspect dimensions per Dwg D2600 Check Pull test per Dwg D2600 for compliance page attached. Check hardness with Webster tester	2	05-12-15	266
5	ST	Identify and Stock	2	05-12-15	260
6	AC	Cost / part	11	05-12-12	260
7	DC	Close W/O Inspect Level 21	17	05/12/16	260

P10


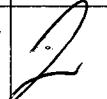
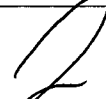


Rev	Date	Change	Revised By	Approved
A	98.05.08	New Issue		
B	98.10.19	Dwg Rev.	KS	
C	99.06.22	Re-format	DM	
D	00.02.01	Removed second pull test	EC	
E	01.03.29	Changed part# to -108	EC	
F	02.09.10	Added DSK 066	KJ	RF

RELEASED
02/09/17 RF

211
301488

P.O. Ref 0352
05/12/20

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Mfg / Design Mgr	Approval QC Inspector

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Design Mgr	Approval QC Inspector
			Initial Design Mgr	Action Description Design Mgr	Sign & Date			
05-12-15	4	4 pieces found with transport damage or fork lift damage Also Tensile strength is supposed to be 410 - Actual is 39660		4 parts scrap damage over Tol. place in quarantine. Tensile strength acceptable As per e-mail from Shepherd.	 05-12-15	 05-12-15	 05-12-15	 05-12-15

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes ☒ No ☐ DQA:  Date: 05/12/16

NOTE: Date & initial all entries

QA: N/C Closed: _____

Date: _____



DESIGN <i>[Signature]</i>	DRAWN BY <i>[Signature]</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>KE</i>	APPROVED <i>[Signature]</i>	DRAWING NO. D2600	REV. D SHEET 1 OF 5
DATE 98.08.20		TITLE EXTRUSION	SCALE 1:1
A	97.01.21	NEW ISSUE	
B	97.09.09	CHANGE MATERIAL SPEC.	
C	98.04.16	ADD D2600-3, UPDATE D2600-1 WIDTH, ADD DIE NO.	
D	98.08.20	INCREASE MIN. UTS TO 40 KSI	
DI	01.04.17	ADD PART NUMBERS & DIE NUMBERS <i>+GP</i>	

RELEASED
98.08.25 DS

GENERAL NOTES

1. MATERIAL: 6061-T6 (QQ-A-200/8)

MINIMUM YIELD TENSILE STRENGTH = 35 ksi
MINIMUM ULTIMATE TENSILE STRENGTH = 40 ksi
MINIMUM ELONGATION = 8 %

A SAMPLE FROM EACH BATCH WILL BE PULL TESTED TO ASTM STANDARD B221 BY AN APPROVED TESTING FACILITY TO ENSURE THAT THE BATCH MEETS THE ABOVE MINIMUM MECHANICAL PROPERTIES.

2. BREAK ALL SHARP CORNERS 0.010 MAX.
3. NO TOOLING MARKS.
4. TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
5. ALL DIMENSIONS ARE IN INCHES.

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WITHOUT NOTICE

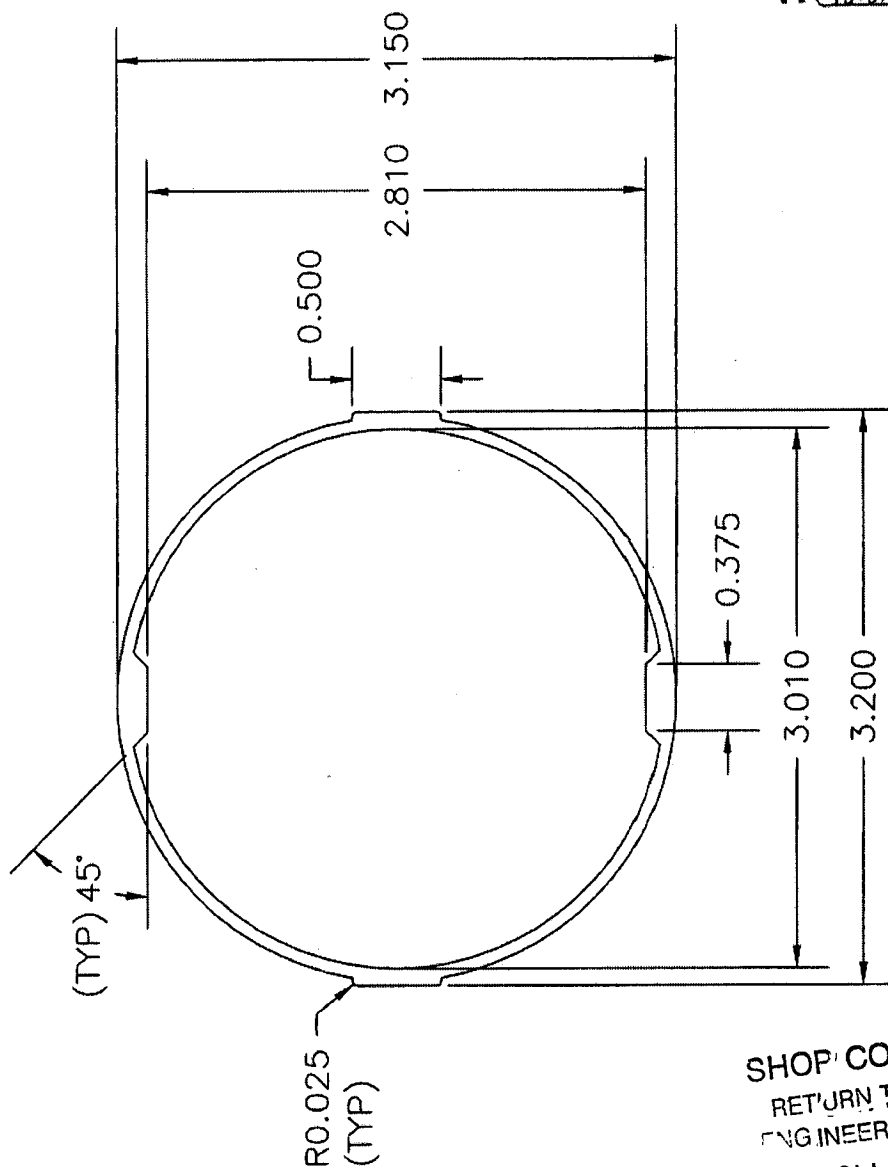
WORK ORDER

NO. 24410



DESIGN <i>DP</i>	DRAWN BY <i>DP</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>KE</i>	APPROVED <i>DP</i>	DRAWING NO. D2600	REV. 0 SHEET 2 OF 5
DATE 98.08.20		TITLE EXTRUSION	SCALE 1:1

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98.8.25 DS



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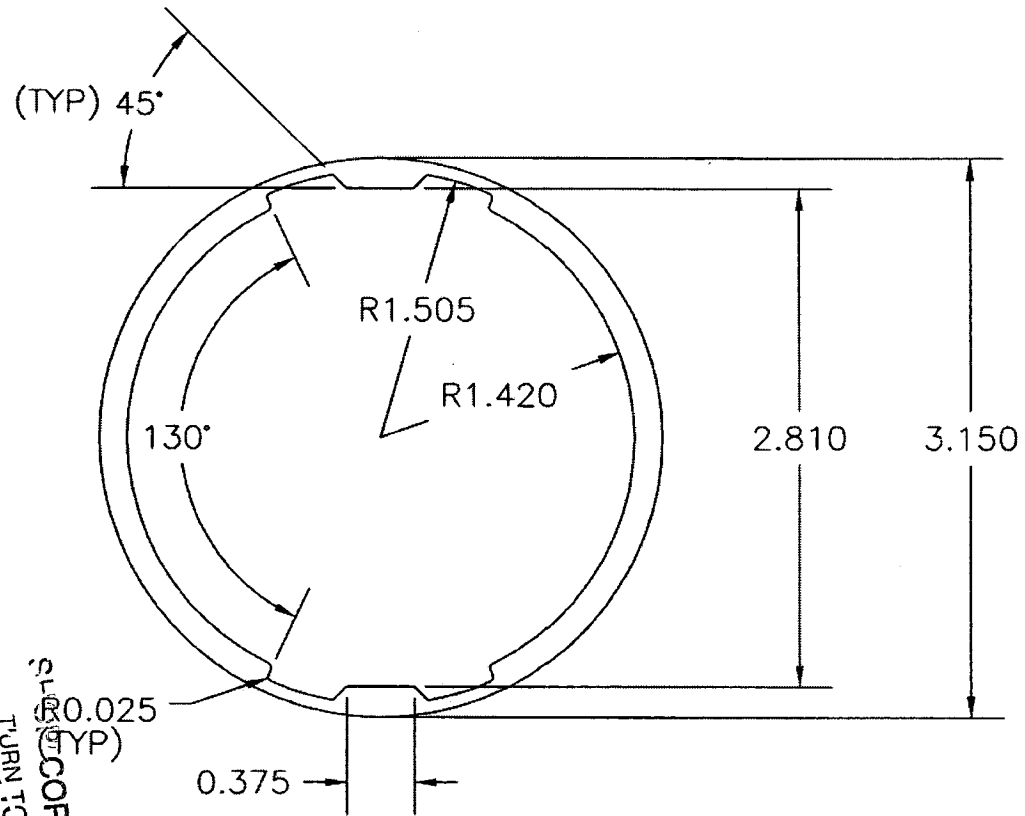
MANUFACTURED WITH CARADON INDALOX DIE # MH-18870
OR BON L DIE # 897121 (PREFERRED CHOICE)
PART NUMBER IS D2600-1-XXX WHERE XXX IS CUT LENGTH IN INCHES (EG. D2600-1-160 IS 160" LONG)



DART



DESIGN	DRAWN BY	DART AEROSPACE LTD HAMKESBURY, ONTARIO, CANADA	
CHECKED <i>KE</i>	APPROVED <i>KE</i>	DRAWING NO. D2600	REV. D
DATE 98.08.20	TITLE EXTRUSION	SHEET 3 OF 5	SCALE 1:1



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98.8.25 DS

D2600-3

MANUFACTURED WITH CARADON INDALEX DIE # MH-18859
OR BON L DIE # 897122 (PREFERRED CHOICE)

PART NUMBER IS D2600-3-XXX WHERE XXX IS CUT LENGTH IN INCHES (EG. D2600-3-120 IS 120" LONG)

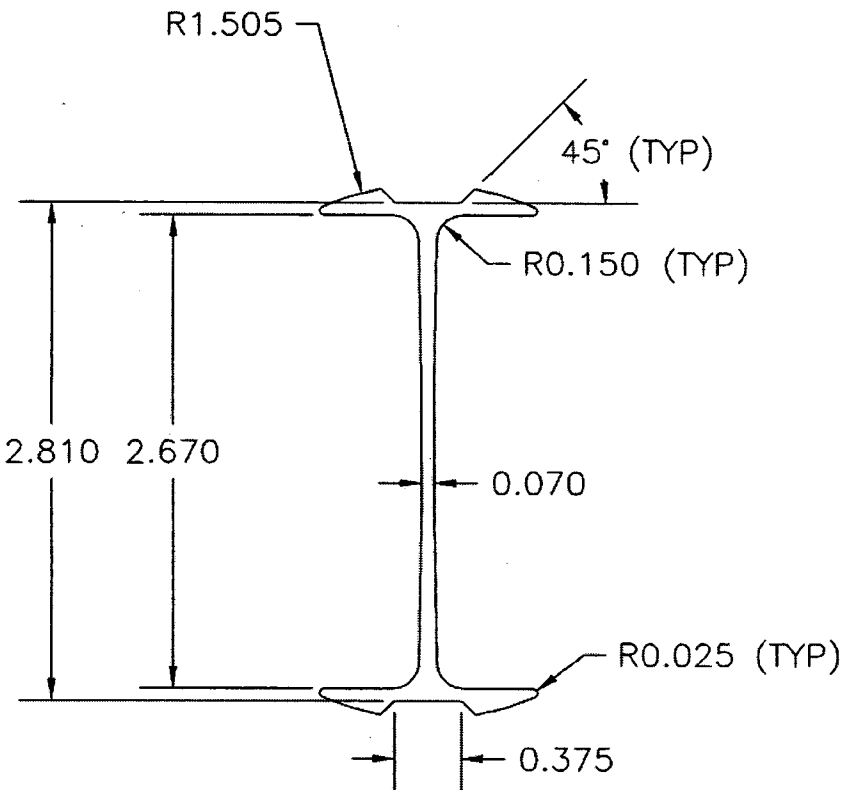


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DESIGN	DRAWN BY	DART AEROSPACE LTD HAMKESBURY, ONTARIO, CANADA
CHECKED <i>LE</i>	APPROVED <i>[Signature]</i>	DRAWING NO. D2600
DATE 98.08.20	TITLE EXTRUSION	REV. D SHEET 4 OF 5 SCALE 1:1

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98.8.25. BS



D2600-5

MANUFACTURED WITH CARADON INDALEX DIE # MS-18871

PART NUMBER IS D2600-5-XXX WHERE XXX IS CUT LENGTH IN INCHES
(EG. D2600-5-108 IS 108" LONG)

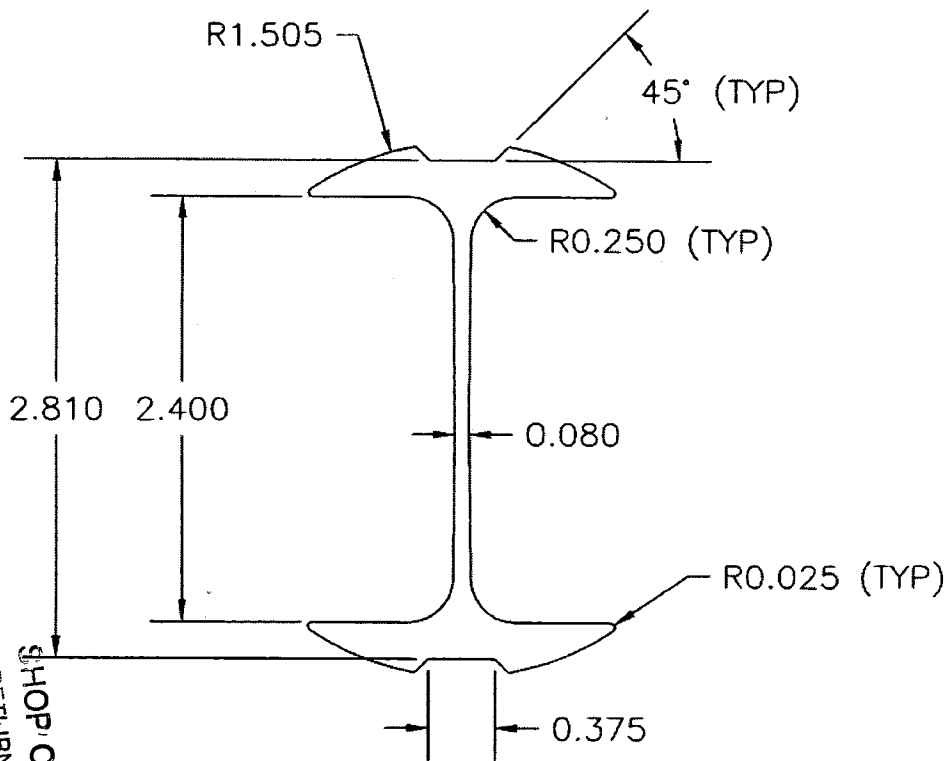


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WORK ORDER
NO. 24410



DESIGN	DRAWN BY	DART AEROSPACE LTD HAMKESBURY, ONTARIO, CANADA
CHECKED <i>KE</i>	APPROVED <i>JS</i>	DRAWING NO. D2600
DATE 98.08.20	TITLE EXTRUSION	REV. D SHEET 5 OF 5
		SCALE 1:1

RELEASED
98.8.25 DS



D2600-7

MANUFACTURED WITH CARADON INDALEX DIE # MS-18872

PART NUMBER IS D2600-7-XXX WHERE XXX IS CUT LENGTH IN INCHES

(EG. D2600-7-125 IS 125" LONG)

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WORK ORDER
NO. 24410



100

Job Costing Report

Dart Aerospace Ltd.
Hawkesbury

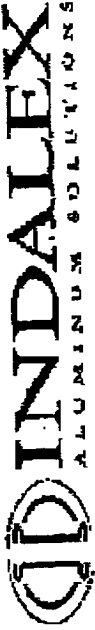
Oct 03, 2005
11:23 am

Work Order No : 0024410
Project Name : D2600-5-108
Project For : WK544
Work Order Type : Main
Main WO Number :
House Part Number : D2600-5-108
Description : Extrusion 'I Beam' thin
Manufactured : Yes
Amount Req'd : 200
Amount Done : 0
Start Date : 10-03-05
Est Finish Date : 11-05-05
Act Finish Date :
Drawings Req'd : No
Ok for Approval :
Approval Rec'd :

Department Code:
Burden Flags : NNNNNNNN
WO Status : Open
Invoice State : Not Invoiced
Invoice Date :
Invoice Number :
Invoice Amount : 0.00
Order Entry No :
OE Value : 0.00
Est Mark Up : 0.000%
Actual Mark Up : 0.000%
\$0 Posted to Finished Goods

	Estimated	Actual	Var. %	Posted	To Post
Material Cost :	0.00	0.00	0.00	0.00	0.00
Engineering Hours :	0.00	0.00	0.00		
Engineering Cost :	0.00	0.00	0.00	0.00	0.00
Production Hours :	0.00	0.00	0.00		
Production Cost :	0.00	0.00	0.00	0.00	0.00
Packaging Hours :	0.00	0.00	0.00		
Packaging Cost :	0.00	0.00	0.00	0.00	0.00
OverHead Hours :	0.00	0.00	0.00		
OverHead Cost :	0.00	0.00	0.00	0.00	0.00
CNC Hours :	0.00	0.00	0.00		
CNC :	0.00	0.00	0.00	0.00	0.00
Misc. Hours :	0.00	0.00	0.00		
Misc. :	0.00	0.00	0.00	0.00	0.00
Burden :	0.00	0.00	0.00		
Total Cost :	0.00	0.00	0.00		
Mark up :	0.000	0.000			
Selling Cost :	0.00	0.00			

	Estimated	Actual
Labour Hrs/Amount Done :	0.00	0.00
Profits/(Loss) :	0.00	0.00



325 rue Avro
Pointe-Claire QC H9R 5W3
Téléphone (514) 697-5120
Fac-simile (514) 694-8310

Rapport des propriétés mécaniques Mechanical Properties Test Report

Client / Customer : DART AEROSPACE LTD
Adresse / Address : 1270 ABERDEEN STREET
HAWKESBURY ONT,
K6A 1K7

commande Indalex / Indalex order # : 5100882
bon de commande / Purchase order # : 2008783
de matrice / Die # : MS 18871 Description : D-2800-5 Light Duty Web
Alliage & trempage / Alloy & temper : 6061 T6
de coulée / Cast # : 36354
de contrôle / Control # : 132-1

Composition chimique typique / Typical chemical composition :

Si:0.72-0.76/ Fe:0.20-0.29/ Cu:0.24-0.28/ Mn:0.06-0.10/ Mg:0.84-0.88/ Cr:0.05-0.09/ Zn:0.08max / Ti:0.04max

Dureté Rockwell E / Rockwell E Hardness : 91 HRE

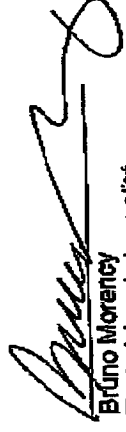
	Min. requis Min. required	Résultat actuel Actual results
Contrainte élastique Yield stress (psi)	35 000	37273
Tension ultime Ultimate stress (psi)	38 000	39660
% elongation dans 2" % elongation in 2"	8	9

Nous certifions que le matériel fourni rencontre les exigences chimiques telles qu'annoncées par l'Association de l'Aluminium ainsi que les exigences de nos procédures de contrôle de qualité.

We hereby certify that the material supplied meets the chemical properties as published by the Aluminum Association, and requirements of our quality control procedures.

Sincèrement vôtre,
Yours truly,

date : 2005-10-18


Bruno Morency
Technicien de la qualité
Quality technician

Indalex Limited

Jason Murdoch

From: David Shepherd [davids@dartaero.com]
Sent: November 15, 2005 6:22 PM
To: Jason Murdoch
Cc: Linda Lacelle; Bill Beckett
Subject: D2600-5-108 B24410

Jason,

You sent me a fax showing me that the UTS for the subject material is 39,660 psi instead of 40,000 psi per the drawing.

The critical extrusion on the D2600 drawing is the D2600-1 extrusion.

Therefore, I think this material is acceptable because it is so close to the 40,000 psi.

However, I think it should be pointed out to the vendor that we didn't get what we asked for.

David